REMARKS

I. Status of Claims

Prior to entry of this paper, **Claims 1, 2, 4, 5, 7-14 and 16-24** were pending. Claims 1, 2, 4, 5, 7-14 and 16-24 were rejected, Claims 3, 6 and 15 were withdrawn. In this paper, Claims 1 and 22-24 are amended; no claims are cancelled; and no claims are added. Claims 1, 2, 4, 5, 7-14 and 16-24 are currently pending. No new matter is added by way of this amendment. For at least the following reasons, Applicants respectfully submit that each of the presently pending claims is in condition for allowance.

II. Request to Withdraw Finality of Office Action

Withdrawal of this Office Action, and the finality indicated therein, is respectfully requested because the Office Action is not complete with respect to all matters as required by 37 CFR 1.104. Namely, **Claim 16** is not addressed in the Office Action in the detailed pages of the paper on pages 2-12. Claim 16 is indicated as "rejected" in the Office Action Summary on page 1 of the paper, but such a summary does not cite the best references in rejecting Claim 16 for want of novelty or for obviousness, nor does it explain the pertinence of any reference upon which the rejection of Claim 16 is based, as is further discussed in 37 CFR 1.104(c)(2). Accordingly, withdrawal of the Office Action issued February 21, 2008 – including withdrawal of the finality of such an Office Action - is respectfully requested.

III. Claim Rejections - 35 U.S.C. § 103

Claims 1, 2 and 22 – 24 are rejected under 35 U.S.C. 103(a) as being anticipated by Arbouzov, US Patent No. 5,701,487 (hereinafter Arbouzov) and in view of Clark et al., US Patent No. 6,401,217 (hereinafter Clark).

With this paper, **Claims 1 and 22-24** have been amended to further clarify the distinction, and thus patentability, between the prior art of record and the inventions respectively claimed therein. Particularly, the nature of the errors in the "history" respectively claimed in each of these claims has been further clarified. For example, Claim 1, as amended, at least recites:

examining contents of one or more files indicating one or more errors in the software system to determine one or more of the software components responsible for the errors and a number of the errors attributed to each of the software components determined to be responsible for the errors, wherein the one or more of the files examined comprises a history of one or more errors in the software system generated during execution of the one or more responsible software components included in the software system, and wherein the history of the one or more generated errors identifies at least one of the one or more generated errors as fixed in source code; and

determining a size of the one or more software components responsible for the errors.

Support for this amendment can be found throughout the application as originally filed, including on page 10, lines 1-4 of the specification.

After carefully reviewing the cited prior art, it is respectfully submitted that Arbouzov, even in further view of Clark, does not teach or suggest at least the above reproduced limitation, including when the effect of such limitations are considered as a whole.

For example, the teachings of Arbouzov pertain to existing, unfixed errors, which do not teach or suggest at least the "*history of the one or more generated errors identifies at least one of the one or more errors as fixed in source code*" as is further represented in the limitations of Claim 1. Particularly, the "errors" in Arbouzov are generated "during compilation of a source program containing a macro call" (col. 1, lines 46-67), wherein the contents of this "source program", such as the symbol "AR", are the basis of the error and the generated error messages (col. 5, lines 23-28; col. 8, lines 13-18). Thus, the error message (Figure 9 of Arbouzov) indicates an error that occurs or still exists in the source code being compiled. This occurrence, in the teachings of Arbouzov, does not indicate an error that has been corrected, much less whether the error has been previously addressed (col. 7, lines 57-60 of Arbouzov). As such, so far as the "errors" in the system of Arbouzov are disclosed to "occur during the compiling step" of "compiling the source program" (col. 2, lines 6-22 of Arbouzov), it is respectfully submitted that Arbouzov does not teach or suggest "*a history of one or more errors in the software system generated during execution of the one or more responsible software components*" or "*wherein*

the history of the one or more generated errors identifies at least one of the one or more generated errors as fixed in source code" as is further represented in the limitations of Claim 1.

It is hereby acknowledged that Arbouzov alone was not relied upon for teaching all aspects of limitations pertaining to the "*one or more errors*" or the "*history*" as is further claimed in at least Claim 1. However, for at least the above reasons, it is respectfully reiterated that Arbouzov does not anticipate all of the limitations of Claim 1, particularly when such limitations are taken as a whole and considered in their entirety. The above remarks also serve as a basis for the relative discussion of Clark, as follows.

It is respectfully submitted that the teachings of Clark does not cure the deficiency noted herein with regards to a "*history*", including as it is further claimed in at least Claim 1. In contrast to the claimed invention of at least Claim 1, the information that is tracked and maintained in the teachings of Clark pertains to repeated, ongoing errors in the execution of a program or program thread (col. 3, lines 39-57). The fact that these errors in Clark are not "*fixed*", as claimed in at least Claim 1, is particularly evidence by the tracking of the repetition of such errors, along with the comparison of the number of errors to a threshold value (col. 8, lines 32-42; col. 9, lines 1-5 of Clark). In fact, this tracking serves as the basis upon which action is positively identified for not taking action in response to these errors (i.e., 'below threshold', col. 6, lines 63-65 of Clark). Regardless, the 'corrective actions' in the system of Clark pertain to either partially or completely resetting the involved processes on a processor, or even an entire processor system and a plurality of processor units (col. 4, lines 50-55 of Clark). As such, the "history for the earlier elimination attempts" (col. 9, line 6-10 of Clark) refer to previous resetting of processes or processors, which does not teach or suggest a history of the one or more errors that identifies "*one or more errors as fixed in source code*" as is further claimed in at least Claim 1. The prevention of error propagation, as is noted in Clark, is not equivalent in scope to addressing a source of an error itself, including as is further represented in "*one or more errors as fixed in source code"* as is further claimed in Claim 1.

As such, it is respectfully submitted that Arbouzov, even in combination with the teachings of Clark, does not teach or suggest the claimed invention of at least Claim 1. Accordingly, withdrawal of this rejection is respectfully requested.

Second, the types of errors involved in the two teachings apply to two different types of program code, source code and executable code. Both types of instructions, along with their differences, are acknowledged in the reference of Arbouzov (col. 1, lines 14-25 of Arbouzov). It is respectfully submitted that these teachings for the two types of code, source program and object program, cannot be interchangeably applied and combined to arrive at the claimed invention. The two references of Arbouzov and Clark separately operate on these two different types of code and, as such, pertain to different, non-overlapping aspects of a computer program.

As noted in the Office Action, the errors that are subject to the teachings of Clark occur when "a respective process reaches or exceeds a predetermined value" (col. 8, lines 38-40). The particular source of the errors in the system of Clark involves the interaction of two executing programs (col. 3, lines 32-41), which are forms of 'object programs'. The errors in Clark take the form of, for example, an unanticipated deviation in the values of data (col. 6, lines 5-14). The methods and teachings of Arbouzov, however, pertain to errors "during compilation of macro calls" in "(col. 1, lines 63-65). Macro calls and macro expansion are associated with the "source program" (col. 1, lines 33-45). As noted above, this source program is converted (i.e., compiled) into a format that may be executed by a computer (col. 1, lines 14-25 of Arbouzov). Thus, the macro errors in the system of Arbouzov exist prior to the object code being "executable" and pertain to information that precedes the existence of executable code (i.e., data regarding macro expansion of the source code). It is at best unclear how errors during execution, such as the "plausibility" of data content or "unanticipated deviations" in compared values (col. 3, lines 43-46 and col. 6, lines 5-11 of Clark) would be applicable to this pre-execution information, including the "history of macro expansion" collected in Arbouzov. The correlation between an expansion error and a source code position, as employed by Arbouzov, is not readily available from the content errors of Clark because they involve a compiled or object program, rather than a source program. Since the "history of macro expansion" and the "sources", "tokens", and "destinations" captured therein (col. 3, lines 47-54 of Arbouzov) all pertain to inserting programming constructs into points in the source program (col. 1, lines 33-45 of Arbouzov), and not the resulting performance of the object code, it is respectfully submitted that these two teachings cannot be operably combined as would be necessary for a rejection under 35

U.S.C. 103(a). The resulting combination would not arrive at a system that is operable to both examine "*a history of one or more errors in the software system generated during execution of the one or more responsible software components in the software system*" and determine "*a size of the one or more software components responsible for the errors*", again, since the history of macro expansion would not pertain to the execution of a resulting object program, thus involving incompatible types of errors.

In fact, it is respectfully submitted that a token that includes an expansion error, such as an undefined symbol (col. 5, lines 49-49-55 of Arbouzov), would not result in executable object code. The lack of definition would prevent such execution. Thus, "determining the specific errors and components/programs that caused them as taught by Clark" (page 3, lines 13-14 of the Office Action) would not be possible, since the software would not be able to be executed (again, because at least one portion is undefined). Conversely, object code that is executable in the system of Arbouzov, per the source of the errors in Clark, would not incur the use of the history of macro expansion stored in destination and source tables (step 904, Figure 9 of Arbouzov), because a compilation error would not have occurred. The processes and sources of error in Clark do not directly comprise a source program, which means that the errors of Clark would not directly be able to provide the system of Arbouzov with the necessary form of input (i.e., source program). Again, the underlying point is that such a combination is not technologically possible, including as is necessary to arrive at the invention claimed of Claim 1, as amended. It is respectfully submitted that the present invention, as claimed in at least Claim 1, comprises a novel and non-obvious method for correlating an execution error and a software component, even in view of the teachings of Arbouzov and Clark.

Along this line of reasoning, it is further respectfully submitted that combining the teachings of Arbouzov and Clark would require an impermissible degree of hindsight. The extent of this hindsight is evidenced above through the discussion of the substantial implementation and logical differences between Clark and Arbouzov. The "determining specific errors and components/programs that caused them as taught by Clark" does not suffice as proper motivation for combining the two references, again, as noted above, since the teachings of Clark pertain to a type of error that would not be possible to derive (i.e., through execution) with the

system and teachings of Arbouzov. Alternately phrased, the teachings of Arbouzov pertain to compilation errors, while the teachings of Clark pertain to content errors – a technological difference that is not overcome by the provided motivation statement on page 3 of the Office Action. Reliance on this motivation statement for validating a rejection under 35 U.S.C. §103(a) thus incorporates an prohibited degree of hindsight in arriving at such a proposed combination.

It is further noted that the Office Action does not include a statement pertaining to the proposed modification of the applied references necessary to arrive at the claimed invention. The indication "combine Arbouzov and Clark" does not indicate how the two references would be modified (page 3, lines 12-13 of the most recent Office Action). As noted above, it is respectfully submitted that Arbouzov and Clark cannot be combined in a manner apparent from the cited prior art. For at least these reasons, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) is improper and it is respectfully requested to be withdrawn.

So far as **Claims 2 and 22-24** depend from or include limitations similar to those discussed above, it is respectfully submitted that the above presented remarks are also applicable to these claims. For at least the same reasons listed above, it is respectfully submitted that Claims 2 and 22-24 are allowable over the prior art of record and the rejections thereto are respectfully requested to be withdrawn.

Claims 4 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbouzov and in view of Clark et al. as applied in Claim 1 and further view of Ruhlen et al., US Patent No. 6,665,824 (hereinafter Ruhlen et al.).

Ruhlen discloses a system for gathering and receiving a large number of error reports. However, Ruhlen does not teach that for which it is relied upon, much less cure the deficiencies cited above with regards to Arbouzov in view of Clark. For example, the repository (235) does not teach or suggest "*wherein the history of the one or more errors identifies one or more errors fixed in source code*", much less "*one or more source code modifications made in response to the errors*". The failure information does not include such detail. Version numbers are not noted as being "*in response to*" a bug ID. Rather, they are merely commonly included in the failure

information (col. 6, line 66-col. 7, line 3). The relationship necessary to meet the limitations of Claim 4 is absent. Also, similar to Clark cited above, it is at best unclear how the errors noted in Ruhlen would be combinable with the token source and destination gathering system of Arbouzov. For at least these as well as the reasons listed above with regard to parent Claim 1, it is respectfully submitted that Claims 4 and 5 are allowable over the prior art of record – including Ruhlen, and withdrawal of the rejections thereto is respectfully requested.

Claims 7 – 9 and 13 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbouzov as applied in claim 1 in view of Clark et al. as applied in Claim 1 and further in view of Leung, US Patent No. 6,769,114 (hereinafter Leung).

Leung discloses a system for preventing modifications to software from invalidating previously passed integration tests. However, similar to the reasoning cited above with regard to Clark, it is at best unclear how the integrations testing errors noted in Leung would be combinable with the compilation-based, token "source" and "destination" gathering system of Arbouzov. For at least this as well as the reasons further listed above with regard to parent Claim 1, it is respectfully submitted that Claims 7-9 and 13-14 are allowable over the prior art of record – including Leung, and withdrawal of the rejections thereto is respectfully requested.

Claims 10 – 12, 17 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbouzov and in view of Clark et al. as applied Claim 1, and further in view of Hanson, US Patent No. 5,946,493 (hereinafter Hanson).

Hanson discloses a system for associating source code listings with optimized listings of object codes. However, it is respectfully submitted that Hanson also fails to teach or suggest all aspects of the claimed "one or more errors" as are further represented in the limitations discussed above for parent Claim 1. Thus, for at least these same reasons, it is respectfully submitted that Claims 10-12 and 17-21 are allowable over the prior art of record – including Hanson. Withdrawal of the rejections thereto is respectfully requested.

CONCLUSION

In view of the above amendment, applicant's representative believes the pending application is in condition for allowance.

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Respectfully submitted,

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